

REMARKS

Claims 1-7 are pending in the present application. Claims 1-7 have been amended.

Priority Under 35 U.S.C. 119

Applicant notes the Examiner's acknowledgment of the Claim for Priority under 35 U.S.C. 119, and receipt of the certified copy of the priority document.

Drawings

In the Office Action Summary Form PTOL-326 received along with the current Office Action dated June 30, 2004, the Examiner has acknowledged receipt of the drawings as filed along with the application on January 20, 2004. However, the Office Action Summary Form does not indicate whether the drawings as filed on January 20, 2004, have been accepted. Accordingly, enclosed herewith are four (4) Drawing Replacement Sheets, which should replace the drawings as filed along with the present application. **The Examiner is respectfully requested to acknowledge receipt and approval of the four (4) Drawing Replacement Sheets submitted herewith.**

Claim Rejections-35 U.S.C. 102

Claims 1-3 have been rejected under 35 U.S.C. 102(e) as being anticipated by the Perel et al. reference (U.S. Patent Application Publication No. 2003/0030010). This

rejection is respectfully traversed for the following reasons.

The vaporizer of claim 1 includes in combination a nozzle "having a gas inlet port formed in upward orientation, said gas inlet port being located a predetermined distance downward from an upper end of an inner surface of a crucible for vaporizing the solid source therein, said predetermined distance being determined so that the vaporized source is delivered from the crucible to the ionization chamber through the gas inlet port of the nozzle even though a pressure difference between the crucible and the ionization chamber is small". Applicant respectfully submits that the Perel et al. reference as relied upon by the Examiner does not disclose these features.

The Examiner has relied upon Fig. 2 of the Perel et al. reference as disclosing the features of claim 1. The Examiner has therefore apparently interpreted feed tube 62 as a gas inlet port and a nozzle through which the vaporized source is delivered from crucible 52 to ionization chamber 58. However, feed tube 62 is not disclosed or even remotely suggested as having a gas inlet port "located a predetermined distance downward from an upper end of an inner surface of a crucible", as would be necessary to meet the features of claim 1. That is, feed tube 62 of the Perel et al. reference is part of the topmost wall of crucible 52, and thus cannot be interpreted as located a predetermined distance downward from an upper end of the inner surface of crucible 52. Applicant notes that the Examiner has not particularly identified a nozzle and a gas inlet port in Fig. 2 of the the Perel et al. reference. Accordingly, Applicant respectfully submits that the vaporizer of claim 1 distinguishes over the Perel et al. reference as

relied upon by the Examiner, and that this rejection, insofar as it may pertain to claims 1-3, is improper for at least these reasons.

With further regard to this rejection, since the Perel et al. reference does not disclose a nozzle having a gas inlet port located a predetermined distance downward from an upper end of an inner surface of a crucible, the Perel et al. reference clearly fails to disclose or suggest a predetermined distance "determined so that the vaporized source is delivered from the crucible to the ionization chamber through the gas inlet port of the nozzle even though a pressured difference between the crucible and the ionization chamber is small". Accordingly, Applicant respectfully submits that the vaporizer of claim 1 distinguishes over the Perel et al. reference as relied upon by the Examiner, and that this rejection, insofar as it may pertain to claims 1-3, is improper for at least these additional reasons.

Claim Rejections-35 U.S.C. 103

Claims 4-7 have been rejected under 35 U.S.C. 103(a) as being unpatentable over the Perel et al. reference. This rejection is respectfully traversed for the following reasons.

The vaporizer of claim 4 includes in combination a nozzle "having a plurality of gas inlet ports formed in an upper portion of a crucible for vaporizing the solid source therein, the number of gas inlet ports being determined so that the vaporized source is delivered from the crucible to the ionization chamber through the gas inlet ports of the

nozzle even though a pressure difference between the crucible and the ionization chamber is small". Applicant respectfully submits that the Perel et al. reference as relied upon by the Examiner does not make obvious these features.

The Examiner has relied upon Fig. 2 of the Perel et al. reference in support of this rejection. As noted above, the Examiner has apparently interpreted feed tube 62 in Fig. 2 of the Perel et al. reference as a gas inlet port and a nozzle. However, feed tube 62 is not disclosed as including a plurality of gas inlet ports. The Examiner has not particularly identified how Fig. 2 of the Perel et al. reference may be interpreted as including a nozzle having a plurality of gas inlet ports.

The Examiner has alleged that "applicant has not disclosed that having two gas inlet ports solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with a singular port as presented above".

Contrary to the Examiner's assertion, as described on page 9, lines 13-17 of the present application, the increased number of gas inlet ports of the nozzle of the present application facilitates the introduction of gas into the arc chamber, and enables stable ionization of a source at a lower vapor pressure of the gas than previously, without giving rise to clogging of the nozzle. Accordingly, the nozzle of claim 4 including two gas inlet ports solves the above stated problem and is for a particular purpose.

Applicant further respectfully submits that in absence of any relied upon teaching showing a nozzle having a plurality of gas inlet ports as featured in claim 4, it would appear that the Examiner has relied upon impermissible hindsight to maintain this

rejection. Accordingly, Applicant respectfully submits that the vaporizer of claim 4 would not have been obvious in view of the prior art as relied upon by the Examiner, and that this rejection of claims 4-7 is improper for at least these reasons.

With further regard to this rejection, since the Perel et al. reference does not disclose or suggest a nozzle having a plurality of gas inlet ports, the Perel et al. reference clearly does not disclose or even remotely suggest "the number of gas inlet ports being determined so that the vaporized source is delivered from the crucible to the ionization chamber through the gas inlet ports of the nozzle even though a pressure difference between the crucible and the ionization chamber is small". Accordingly, Applicant respectfully submits that the vaporizer of claim 4 would not have been obvious in view of the prior art as relied upon by the Examiner, and that this rejection, insofar as it may pertain to claims 4-7, is improper for at least these additional reasons.

Claim 6 as dependent upon claim 5, features that "the nozzle includes the two gas inlet ports branched from a center of the crucible such that the two gas inlet ports are symmetrically formed at approximately 45 degrees to a vertical central axis of the crucible".

Applicant respectfully notes that the Examiner has not established how the Perel et al. reference may be interpreted as disclosing or even remotely suggesting these features, particularly whereby two gas inlet ports are symmetrically formed at approximately 45 degrees to a vertical central axis of a crucible. In absence of any relied upon teaching disclosing or even remotely suggesting these features, the

Examiner clearly has relied upon impermissible hindsight to maintain this rejection. Accordingly, Applicant respectfully submits that the vaporizer of claim 6 would not have been obvious in view of the prior art as relied upon by the Examiner, and that this rejection, insofar as it may pertain to claim 6, is improper for at least these additional reasons.

Conclusion

The Examiner is respectfully requested to reconsider and withdraw the corresponding rejections, and to pass the claims of the present application to issue, for at least the above reasons.

In the event that there are any outstanding matters remaining in the present application, please contact Andrew J. Telesz, Jr. (Reg. No. 33,581) at (703) 715-0870 in the Washington, D.C. area, to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment for any additional fees that may be required, or credit any overpayment, to Deposit Account No. 50-0238.

Respectfully submitted,

VOLENTINE FRANCOS & WHITT, P.L.L.C.

A handwritten signature in black ink, appearing to read "A. J. Telesz, Jr.", with a stylized flourish at the end.

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Enclosures: Four (4) Drawing Replacement Sheets